Notes on North American Nepidae

(Hemiptera: Heteroptera)

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In connection with continuing studies aimed at an eventual comprehensive treatment of the zoogeography and systematics of North and Middle American Aquatic Hemiptera, numerous collections and investigations have been made resulting in data that are needed by other workers. This paper is one of a series of short notes presenting selected data on systematics and distributions.

In 1930, Hungerford considered it remarkable that a new *Ranatra* would be found in the United States. His *R. texana* Hungerford is now known to occur also in Middle America (see below) with the Texas records being the northernmost extension of its range. With much more comprehensive data available to us now, it is perhaps more remarkable that there is an apparent endemic relict new species of *Ranatra* in Arizona, which I describe below.

The description follows roughly the format of Lansbury (1972) rather than Hungerford (1922), in order to preserve a continuity of style with the latest major reviser in the group. Lansbury's lora of the head is equivalent to Hungerford's jugum. All measurements given in units have 60 units = 1 mm. Types held in the Polhemus Collection are irrevocably committed to later placement in a designated type repository. All material upon which this paper is based is in the Polhemus Collection unless otherwise noted. I am indebted to A. S. Menke, U. S. National Museum (USNM) and J. Donahue, Los Angeles County Museum of Natural History (LACM) for their assistance.

Ranatra montezuma, n. sp.

Male.—body length 21–24 mm, respiratory siphon 13–16 mm; Female: body length 25–28 mm, respiratory siphon 19–21 mm.

Vertex clearly raised above eyes, smoothly rounded. Eye width less than interocular space (4/4.5). Clypeus and lora about equally high. Elongations of second and third antennal segments equal.

Anterior lobe and posterior lobe unicolorous. Anterior lobe almost twice as long as posterior lobe (7/4), humeral width about one-fourth greater than anterior width (13/10.5). Prothorax without strong median keel or sulcus. Scutellum about twice as long as broad (8.3/4.5). The median finger-like posterior projection

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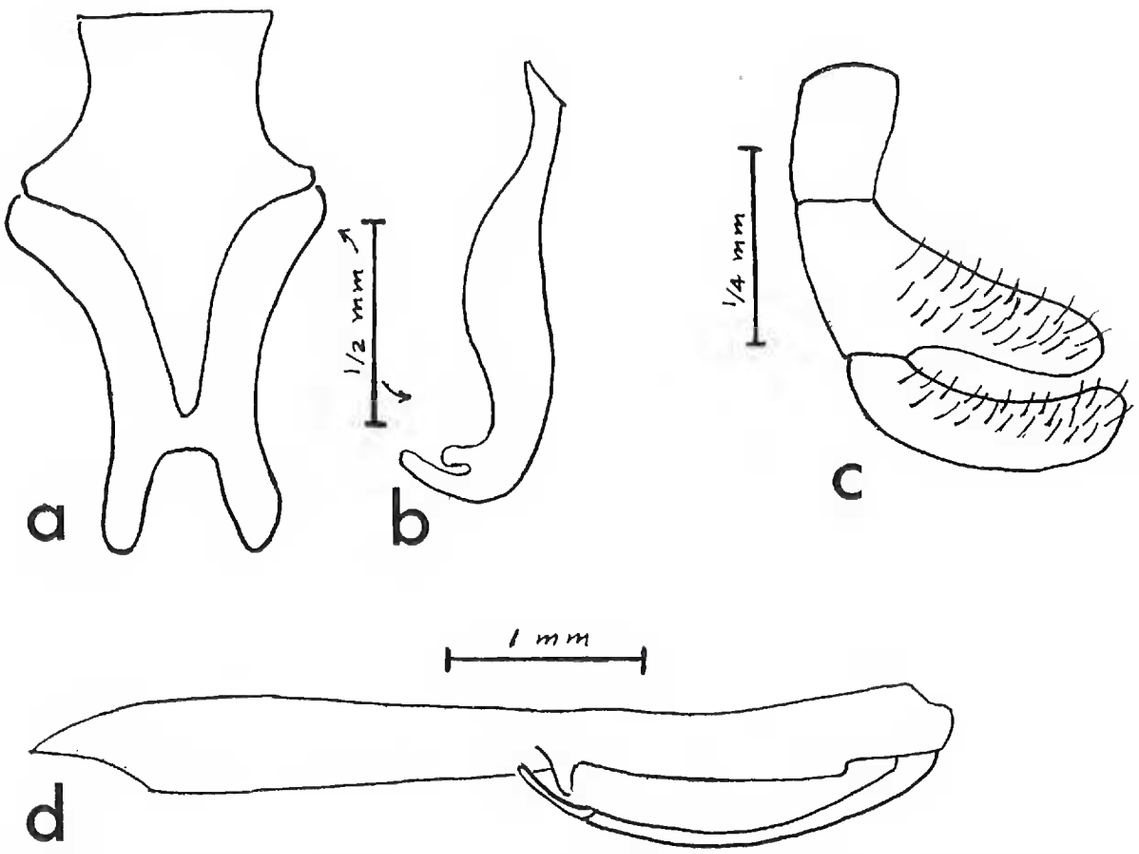

FIG. 1. *Ranatra montezuma* n. sp., male. a. metasternum. b. left paramere. c. antenna. d. foreleg.

of the metasternum not elongated, reaching only to middle of hind coxae, slightly raised medially (Fig. 1).

Fore femur with stout median tooth and small apical tooth. Posterior femur slightly longer than intermediate femur, reaching only to basal fifth of abdominal sternite 5. Tips of posterior tarsi not exceeding middle of siphon in male, basal third of siphon in female.

Female operculum barely exceeding connexivum. Male paramere with a distinct tooth on inner margin.

Material examined: Holotype (♂), Allotype (♀), and paratypes 21♂♂, 11♀♀, ARIZONA, YAVAPAI CO., NR. RIMROCK, MONTEZUMA WELL, CL695, III-27-'75, J. T. Polhemus (JTP Coll.). Paratypes, 42♂♂, 33♀♀, same location, June 19, 1968, A. S. Menke and O. Flint (USNM). Other specimens, not paratypes, 8♂♂, 4♀♀, same location, A. S. Menke and L. Stange, April 1, 1958 (LACM).

Discussion: *Ranatra montezuma* belongs to the same group of species as *brevicollis* Montandon, *fusca* Palisot Beauvoir and *quadridentata* Stal, which occur in the same region, but is smaller than any of them. In this group, the last abdominal segment in the male does not extend ventrally to embrace the distal part of the operculum, and the respiratory siphon of the females is not as long as the body. Of these species, *montezuma* most closely resembles *brevicollis* in the short appendages and general facies, but differs from the latter in having a relatively

longer anterior lobe, second antennal segment with digitate process subequal to third (as opposed to half as long in *brevicollis*), and having a much stouter male paramere of different shape. *R. fusca* has a longer siphon, the lora are less elevated, and the eyes are larger and more transverse than *montezuma*. *R. quadridentata* has a differently shaped paramere (see Hungerford 1922) and the tylus is not as prominent, appearing much shorter than in *montezuma*.

RANATRA TEXANA HUNGERFORD

Ranatra texana Hungerford, 1930. Can. Entomol. 62:217 (type, ♂, Bee Co, Texas, in Snow Entomological Museum, Lawrence, Kansas)

Material examined: UNITED STATES. *Texas*: 3♂♂, 4♀♀, Christoval, Conchos River, CL1113, V-9-'64, J. T. Polhemus; 3♂♂, 1♀, Ottine, CL396, VIII-6-'67, J. T. Polhemus. MEXICO. *Chiapas*: 1♀, Puente La Flor, CL1247, XII-19-'69, J. T. Polhemus. *Oaxaca*: 1♂, Juchitan, CL1244, XII-18-'69, J. T. Polhemus. *San Luis Potosí*: 1♂, 35 km. N. Tamazunchale, CL1241, XII-16-'69, J. T. Polhemus. *Veracruz*: 1♂, W. of Veracruz, CL1335, I-16-'70, J. T. Polhemus. GUATEMALA. 3♂♂, 4♀♀, 10 mi. N. Ascuncion Mita, CL1313, I-10-'70, J. T. Polhemus; 2♂♂, 1♀, Puerto San Jose, CL1250, XII-20-'69, J. T. Polhemus.

RANATRA SPATULATA KUITERT

Ranatra spatulata Kuitert, 1949. J. Kansas Entomol. Soc. 22:32 (Type, ♂, listed as being from "Key West, Florida, May 8, 1919," in U. S. National Museum.)

Kuitert (1949) gives the type locality as Key West as noted above, and further notes that the specimen is from the Frank Lutz Collection and is in the American Museum of Natural History. In fact, the specimen is from the J. C. Lutz Collection of Philadelphia, now in the USNM, where I studied the type.

Over the years I have become increasingly suspicious of the validity of the locality label on this type, the label being photographically reproduced from a typed original, probably by Lutz. In 1947 the assiduous collector Raymond Beamer made a trip to the Keys to try for *Ranatra* (Hungerford 1958), but was unsuccessful. Later I went to the Keys for the same purpose, and determined that the only permanent freshwater habitat there is a pond on Big Pine Key which I worked without finding any *Ranatra*. Finally, I studied the type in the USNM, and found that it apparently is not allied to the American fauna, having the metasternum and male parameres of a form typical of Old World species, but not seen in any New World species.

Having just collaborated with Dr. Ivor Lansbury of Oxford in working out the differences in the Old and New World *Ranatra*, I asked him to borrow the type and give me an opinion on this species. (See

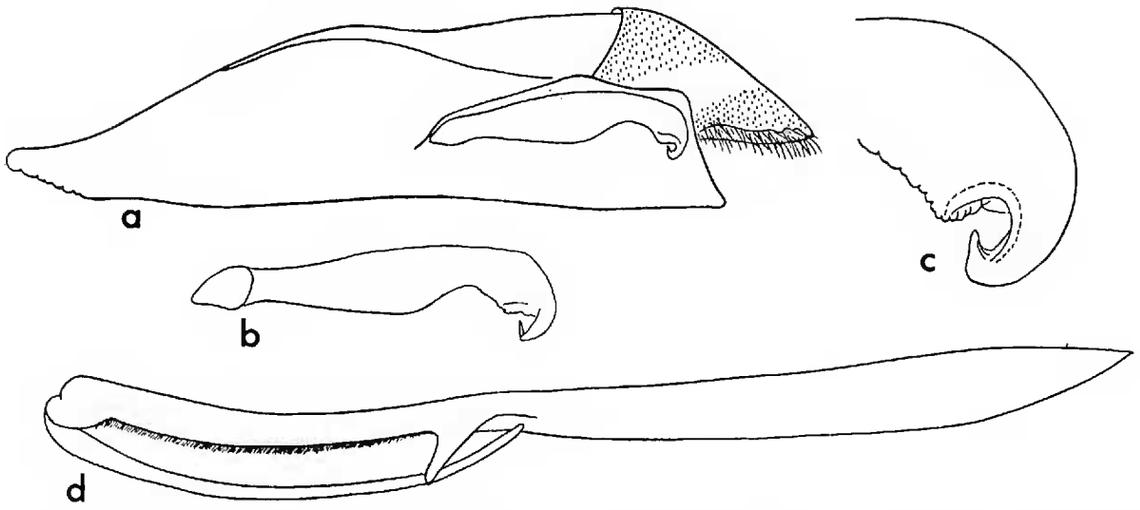

FIG. 2. *Ranatra spatulata* Kuitert. a. genital capsule. b. paramere, slightly enlarged. c. paramere, distal portion. d. foreleg.

Lansbury 1974 for a discussion of Old and New World *Ranatra*.) Dr. Lansbury very kindly obliged, and graciously offered the use of his sketch figures (Fig. 2) and comments, which are given here in part:

"I have now examined the type of *Ranatra spatulata* Kuitert and find that it is an African species which has been erroneously labelled, possibly by Frank Lutz. As far as I can discover . . . *spatulata* is a species of the *grandocula* Bergroth group. Comparison of the parameres shows a remarkable similarity with *R. capensis congoensis* Poisson, but the fore leg of the latter is quite different from that of *spatulata* and is quite similar to *grandocula*.s.l. The metasternal plaque is very similar to *congoensis*. As a matter of interest, the type of *spatulata* does not have its front legs attached to the body, they are stuck on a piece of card (Hungerford det label) so the possibility exists that they are not the right legs at all!! When Kuitert described the species he partially removed the male genital capsule to see the parameres, in doing so, he somehow damaged the internal genitalia, all that is left is the bridge and lateral arms, the lamina ventralis and associated structures have all been removed, consequently I was not able to make as full a study as I would have normally done in these circumstances.

I am sorry not to be more specific about the real identity of *spatulata*. I can however assure you that it is not a North American species or an Oriental one."

As it seems certain that *Ranatra spatulata* is not of American origin, it should be stricken from the U. S. list and carried instead as an African species, with its exact origin unfortunately not known.

CURICTA PRONOTATA KUITERT

Curicta pronotata Kuitert, 1949. J. Kansas Entomol. Soc. 22:66 (type, ♂, Huachuca Mts., Ariz., U. S. National Museum)

Vincent Roth rediscovered this species in northwestern Sonora and collected it in numbers in Canyon de Evans. Searches in other locali-

ties in upper Sonora and Arizona have not revealed other colonies. Previously known only from the type series of three males, it is new to Mexico. A good series reportedly collected in Canyon de Evans (Roth, *in litt.*) has not been seen by me, but I have some that he and I collected.

The female is of the same general facies as the male, but slightly larger; body length 25 mm, respiratory siphon 10 mm.

Material examined: MEXICO. *Sonora*: 2♂♂, 1♀, 6 nymphs, Canyon de Evans, Sierra de los Ajos, Pine-oak, N. end, 31°N-110°W, VI-1-'71, V. Roth; 1♂, Canyon de Evans, 17 mi. S. E. Cananea, CL570, III-30-'73, J. T. Polhemus.

CURICTA HOWARDI MONTANDON

Curicta howardi Montandon, 1910. Bull. Soc. Sci. Bucharest 18:181 (type, Victoria, Texas in U. S. National Museum).
Curicta drakei Hungerford, 1922. Kansas Univ. Sci. Bull., 14 (18):432.

This little species is widespread in southeastern Texas, and has been reported from Louisiana by Hungerford (1922) and Ellis (1952). I have found it in abundance only in Skull Creek (see below), but diligent collecting resulted in specimens from several other localities.

Material examined: *Texas*: 55 adults and nymphs, Rock Island Co., Nr. Altair, Skull Creek, CL392, VIII-6-'67, J. T. Polhemus; 1♂, 2 nymphs, Sheridan, CL394, VIII-6-'67, J. T. Polhemus; 1♂, 1♀, Ganado, CL451, VI-5-'69, J. T. Polhemus; 1♀, College Station, VI-1-'31, H. Mills; 1♂, Brazos Co., College Station, X-10-196?, J. Sweet.

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